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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/706,086	11/13/2003	Sadao Kotera	36856.1140	7271
7590	02/09/2005		EXAMINER	
Keating & Bennett LLP Suite 312 10400 Eaton Place Fairfax, VA 22030			NGUYEN, KHANH V	
			ART UNIT	PAPER NUMBER
			2817	

DATE MAILED: 02/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/706,086	KOTERA ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Khanh V. Nguyen	2817	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 13 November 2003.  
 2a) This action is FINAL.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-11 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1-11 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on 13 November 2003 is/are: a) accepted or b) objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>11/13/03</u> . | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|   | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### *Drawings*

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the “**an input tuning circuit**” must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is not clear which "input tuning circuit" is intended.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3-4 are rejected under 35 U.S.C. 102(b) as being anticipated by Kunishima (6,037,999).

Regarding claim 1, Kunishima (Figs. 1, 2) discloses a tuner comprising: an input (11); a variable gain amplifier (4); a pre-amplifier (2); and a variable attenuator (1) including PIN diode (1a, 1b), wherein the structure recited in Kunishima (Fig. 1) is identical to that of the applicant's claims. As such, the claimed functions are presumed to be inherent.

Regarding claims 3, 4, wherein the AGC voltage can be set as recited in the claim (see col. 3, lines 61-67 and col. 5, lines 24-32).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kunishima.

Regarding 2, Kunishima discloses the claimed invention except the amount of DC flow through the PIN diode. However, such a current can be obtained can be set/controlled by AGC voltage via control voltage generating circuit (10) (see column 4, lines 21-34).

Claims 5-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kunishima in view Boulic (6,081,151).

Kunishima discloses the claimed invention except the variable attenuator having at least three PIN diodes.

Boulic (Figs. 1, 3) discloses an electrically controlled variable attenuator comprising at least three PIN diodes (D10-D12).

Accordingly, it would have been obvious in view of the reference, taken as a whole, to have modified the attenuator circuit of Kunishima to have included an attenuator circuit as taught by Boulic since these two circuits are equivalent. As such, replacing one for another would be within the level of ordinary skill in the art. Regarding claim 6, wherein the diodes of Boulic are arranged as Pi-shaped attenuation circuit (see col. 1, lines 6-39).

Regarding claim 7, wherein Boulic (Fig. 1) discloses a choke coil (L10), a plurality of resistors (R10-R13), a plurality of capacitors (C10-C14), and wherein control voltage (Vc) is coupled to a transistor as shown in Figure 3.

Claims 7-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kunishima in view Aoki et al. (4,369,414).

Regarding claim 7, Kunishima discloses the claimed invention except the choke coil.

Aioki et al. disclose an attenuator circuit including choke coil (L3), a plurality of resistors (R1-R6), a plurality of capacitors (C2-C6), and a transistor (T1).

Accordingly, it would have been obvious in view of the reference, taken as a whole, to have modified the attenuator circuit of Kunishima to have included an attenuator circuit as taught by Aioki et al. since these two circuits are equivalent. As such, replacing one for another would be within the level of ordinary skill in the art.

Regarding claim 10, wherein PIN diode (D4) is connected to an emitter of the transistor (T1) via coil (L3).

Regarding claim 11, wherein base of transistor (T1) is connected a control voltage via terminal (6).

Regarding claims 8, 9, Kunishima discloses the claimed invention except the connection of PIN diode.

Aioki et al. disclose an attenuator circuit including PIN diode, wherein PIN diode (D4) having cathode and anode connected as claimed.

Accordingly, it would have been obvious in view of the reference, taken as a whole, to have modified the attenuator circuit of Kunishima to have included an attenuator circuit as taught by Aioki et al. since these two circuits are equivalent. As such, replacing one for another would be within the level of ordinary skill in the art.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The additional references (Kam (4,019,160); Matsuura (4,668,882)) disclose variable attenuator circuit.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Khanh V. Nguyen whose telephone number is (571) 272-1767. The examiner can normally be reached from 8:00 AM - 3:30 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Pascal can be reached on (571) 272-1769. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and (703) 872-9306 for After Final communications.

Art Unit: 2817

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



**KHANH VAN NGUYEN  
PRIMARY EXAMINER  
Art Unit: 2817**